

REMARKS

Request for Interview

Prior to examination of the amended claims, Applicants request the courtesy of a morning interview telephone conference call, to include one of the inventors of record. It is believed that the complexity of the drawings and specifications of both the present application and cited reference forming the basis of the outstanding rejections (especially with respect to description of structural orientation of reinforcing fibers forming part of the claimed composite structures) are most efficiently addressed as part of a conversation. The inventors reside in the Netherlands, six hours ahead of Eastern Daylight Time. A morning interview would be appreciated in order to accommodate the time zone difference. The Examiner is requested to telephone the undersigned attorney, with a range of available dates.

In view of both the amendments presented above and the following discussion, the Applicants submit that none of the claims now pending in the application is anticipated under the provisions of 35 USC § 102. Thus, the Applicants believe that all of these claims are now in allowable form.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, the Examiner should telephone Peter A. Luccarelli Jr. at (732) 542-7800 so that appropriate arrangements can be made for resolving

such issues as expeditiously as possible.

Claims Status and Discussion of the Present Invention

Claims 23-28 and 39-48 are presently in the application. The Examiner has withdrawn claims 45-48 from further consideration. Claim 23 is the sole independent claim. All other pending claims are directly or indirectly dependent on claim 23.

Applicants' invention is directed to a fiber-reinforced gas or fluid-tight structure with a varying radius with regard to an axis of symmetry such that the body comprises a number of integrally formed convex and concave surface sections, or at least one concave section, and by overwinding the body with filaments such that at least one concave surface section is continuously overwound with a fiber as an isotensoide, a substantially isotensoidal body is obtained which has excellent performance in terms of volume, pressure, and mass.

This performance is attained since in isotensoidal bodies the applied fibers are tensioned in exactly the same magnitude, so that optimal use of material properties is made. Accordingly, the body may endure high pressures and has a relatively large shape stability. Variations of the pressure inside the body results in variation of the envelope stiffness. By the formation of rotationally symmetrical bodies with varying radius in an isotensoidal way, advantageous applications may be found. More specifically, elongated objects can be formed making the bodies available for a wide variety of applications. The

combination of flexibility of the body and the ability to endure pressure loadings makes it suitable for flexible pipes and hydraulic applications.

The advantages and distinctions of the present invention are reflected in the amended claims presented herein. Sole independent claim 23 recites that the structure as a "unitized integrally formed gas or fluid-tight body having a continuous outer circumferential surface ... wherein the radius of the body outer surface varies [and defines] ... at least one concave surface section ... and one convex surface section ... [wherein the] concave surface section about its entire outer surface is continuously overwound with a fibre filament as an isotensoide" (emphasis added).

Rejections Under 35 U.S.C. § 112

The Examiner called to Applicants' attention various claim informalities that have been addressed by amendments to claims 23, 27, 28, 39 and 44. It is believed that the amendments to those claims are self explanatory, and that they fully comply with the Examiner's suggestions.

Rejections Under 35 U.S.C. § 102(b)

Claims 23-28 and 39-44 stand rejected under 35 U.S.C. § 102(b) as being anticipated by EP 0 626 338 A1 ("EP 338"). It is respectfully urged that the outstanding anticipation rejection be withdrawn against all of the claims in view of the foregoing amendment to claim 23. As noted above, the sole independent claim 23 recites that the

structure as a "unitized integrally formed gas or fluid-tight body having a continuous outer circumferential surface ... wherein the radius of the body outer surface varies [and defines] ... at least one concave surface section ... and one convex surface section ... [wherein the] concave surface section about its entire outer surface is continuously overwound with a fibre filament as an isotensoide" (emphasis added).

The EP 338 reference shows ball-shaped fiber-reinforced pressurized structures that only have a convex outer surface. In contrast, the present invention as recited in claim 23 has a unitized outer surface that defines both convex and concave outer surface portions. Further at least one of the concave surface portions is continuously overwound with fibre filament as an isotensoide.

The Examiner cites Fig. 10 of the EP 338 reference as anticipating the present invention. The structures shown in Fig. 10 are combinations of separate ball structures that are strung together, analogous to a string of pearls or a shish kabob skewer. The strung-together balls do not have a continuous outer surface that includes convex and concave portions. Rather the EP 338 reference shows a series of independent separate and discrete discontinuous surfaces serially joined together, and as such there are no concave surfaces that are continuously overwound with fibre filament as an isotensoide. The EP 338 structure of Fig. 10 thus has its structural integrity limited to the strength of the joining elements that string together the separate discontinuous balls. In contrast the invention as recited

in claim 23 derives structural strength from the continuously overwound fibre filament elements.

Applicants note that claims 24-28 and 39-48 are dependent claims that refer to independent base claim 23. The dependent claims comprise all of the elements found in claim 23, which has been argued to be patentable over the EP '338 reference. Hence the dependent claims must also be patentable over the EP '338 reference. As such, for the sake of brevity, the additional rejection comments made by the Examiner with respect to the dependent claims are believed to be moot and are not addressed further herein.

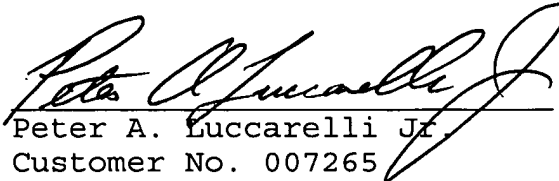
Applicants request reconsideration and withdrawal of the outstanding restriction requirement respecting claims 45-48 (former claims 35-38) which were accidentally withdrawn during the response to a prior office action indicating a restriction requirement. As the Examiner had properly stated, Group III consisted of claims 23-38 and were drawn to a product. At that time, the Applicants selected Group III, but only listed claims 23-28 in the response. Thus, the Applicants inadvertently cancelled claims 29-38. In accordance with the USPTO procedures, these claims are being introduced as new claims numbered 39-48. Applicants direct the Examiner to note that these are dependent claims arising from claim 23. If the outstanding rejection of the independent claim 23 is withdrawn and the claim is allowed, it follows that the dependent claims should also be allowable. The Office Action also withdraws "claim 49" from further consideration. However it is noted that there is no claim 49 in the application's prosecution history.

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Amdt. dated May 21, 2010
Reply to Office action of Nov. 23, 2009

In light of the foregoing contention of Applicants, it is urged that the rejection of claims 23-28 and 39-48 be withdrawn and that claims be allowed and the application passed to issue.

Respectfully submitted,

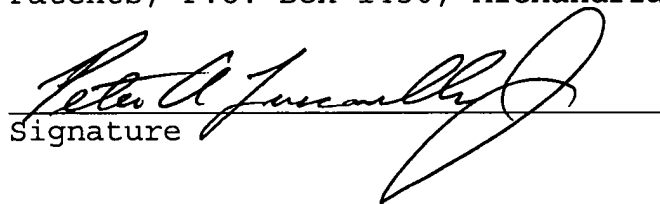
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